2.69-5 Percentages and Ratio: Practice Set 5: 30-minute Pack

GL ASSESSMENT GL · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Which of these ratios is NOT equivalent to 7 : 9?

- ☐ A) 14 : 18
- ☐ B) 21 : 27
- ☐ C) 28 : 36
- ☐ D) 35 : 46

2 Which decimal is equal to 7%?

(1)

3 Simplify the ratio 1.2 : 4.8 to its simplest whole-number form.

(1)

4 Write 84% as a fraction in its simplest form.

(1)

5 Callum and Nadia share 108 stickers in the ratio 7 : 5. Calculate how many stickers Nadia receives.

(2)

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6 A hamper contains ginger biscuits and oat biscuits in the ratio 7 : 13. Calculate what percentage of the biscuits are ginger biscuits.

(2)

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7 y is directly proportional to x. When x = 8, y = 30. Calculate the value of y when x = 20.

(2)

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8 Complete the following conversions between fractions, decimals and percentages.

(a) Write 23/25 as a percentage. **(1)**

(b) Write 0.72 as a fraction in its simplest form. **(1)**

(c) Write 34% as a decimal. **(1)**

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9 Find 28% of 650.

(2)

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10 Find 64% of £175.

(2)

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11 A drama club has 220 members. 45% of the members are under 14 years old. How many members are under 14?

(2)

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12 A secondhand bookshop had 340 items in stock. On Monday, 25% of the items were sold. On Tuesday, a further 34 items were sold.

(a) How many items were sold on Monday? **(1)**

.....

(b) How many items remain in stock after Tuesday? **(2)**

.....

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13 A laptop bag is reduced from £260 to £221. Find the percentage decrease.

(3)

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14 A coat is reduced by 35% in a sale and now costs £91. What was the original price of the coat?

(3)

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15 A camping shop sells a tent for £260. In a sale, the price is reduced by 15%.

(a) Calculate the amount of the discount. **(1)**

(b) Calculate the sale price. **(1)**

(c) A customer says, 'The discount is more than a seventh of the original price.' Is the customer correct? Explain your answer. **(1)**

(d) Express the discount as a fraction of the original price, giving your answer in its simplest form. **(1)**

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Mark scheme · 2.69-5 Percentages and Ratio: Practice Set 5: 30-minute Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

D) 35 : 46 cao **B1**

Answer: D) 35 : 46

Question 2

0.07 cao **B1**

Answer: 0.07

Question 3

1 : 4 oe cao **B1**

Answer: 1 : 4

Question 4

21/25 oe cao **B1**

Answer: 21/25

Question 5

total parts found (7 + 5 = 12) and unit value found: 108/12 = 9 **M1**

45 cao **A1**

Answer: 45

Question 6

total parts found (7 + 13 = 20) and fraction 7/20 set up, or equivalent method **M1**

35% oe cao **A1**

Answer: 35%

Question 7

scale factor found: 20/8 = 5/2, or constant of proportionality k = 30/8, or equivalent method **M1**

75 cao **A1**

Answer: 75

Question 8

(a) 92% cao **B1**

(a) Answer: 92%

(b) 18/25 oe cao **B1**

(b) Answer: 18/25

(c) 0.34 cao **B1**

(c) Answer: 0.34

Question 9

10% of 650 found (= 65), used to build 28% (oe) **M1**

182 cao **A1**

Answer: 182

Question 10

10% of 175 found (= 17.5), used to build 64% (oe) **M1**

£112 cao **A1**

Answer: £112

Question 11

10% of 220 found (= 22), used to build 45% (oe) **M1**

99 cao **A1**

Answer: 99

Question 12

(a) 85 cao **B1**

(a) Answer: 85

(b) 340 - their 85 (= 255) found (ft from part a) **M1**

(b) 221 cao (ft) **A1**

(b) Answer: 221

Question 13

decrease found (= 260 - 221 = 39) **M1**

dep: their 39 / 260 oe seen **M1**

15% cao **A1**

Answer: 15%

Question 14

recognises 65% represents £91 (or finds 1% = 1.40) **M1**

dep: finds 100% from their 1% or 65% **M1**

£140 cao **A1**

Answer: £140

Question 15

(a) £39 cao **B1**

(a) Answer: £39

(b) £221 cao (ft from part a) **B1**

(b) Answer: £221

(c) Yes, correct (oe), with a valid comparison, e.g. 39 > 260/7 (approx 37.14), or 15% > 1/7 (approx 14.3%) **B1**

(c) Answer: Yes; a seventh of £260 is about £37.14, and the discount of £39 is greater than this, so the customer is correct.

(d) 3/20 oe cao (ft from part a) **B1**

(d) Answer: 3/20

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